IN THE SPECIFICATION:

Please amend the specification as follows:

Page 2, delete paragraph [0002] and replace it with the following new paragraph:

[0002] The term "patterning device" as here employed should be broadly interpreted as referring to device that can be used to endow an incoming radiation beam with a patterned cross-section, corresponding to a pattern that is to be created in a target portion of the substrate. The term "light valve" can also be used in this context. Generally, the pattern will correspond to a particular functional layer in a device being created in the target portion, such as an integrated circuit or other device. An example of such a patterning device is a mask. The concept of a mask is well known in lithography, and it includes mask types such as binary, alternating phase shift, and attenuated phase shift, as well as various hybrid mask types. Placement of such a mask in the radiation beam causes selective transmission (in the case of a transmissive mask) or reflection (in the case of a reflective mask) of the radiation impinging on the mask, according to the pattern on the mask. In the case of a mask, the support ~~structure~~ will generally be a mask table, which ensures that the mask can be held at a desired position in the incoming radiation beam, and that it can be moved relative to the beam if so desired.

Page 2, delete paragraph [0006] and replace it with the following new paragraph:

[0006] Lithographic projection apparatus can be used, for example, in the manufacture of integrated circuits (ICs). In such a case, the patterning device may generate a circuit pattern corresponding to an individual layer of the IC, and this pattern can be imaged onto a target portion (e.g. comprising one or more dies) on a substrate (silicon wafer) that has been coated with a layer of radiation sensitive material (resist). In general, a single wafer will contain a whole network of adjacent target portions that are successively irradiated via the projection system, one at a time. In current apparatus, employing patterning by a mask on a mask table, a distinction can be made between two different types of machine. In one type of lithographic projection apparatus, each target portion is irradiated by exposing the entire mask pattern onto the target portion at once. Such an apparatus is commonly referred to as a

wafer stepper. In an alternative apparatus, commonly referred to as a step and scan apparatus, each target portion is irradiated by progressively scanning the mask pattern under the ~~projection~~ beam of radiation in a given reference direction (the "scanning" direction) while synchronously scanning the substrate table parallel or anti-parallel to this direction. Since, in general, the projection system will have a magnification factor M (generally < 1), the speed V at which the substrate table is scanned will be a factor M times that at which the mask table is scanned. More information with regard to lithographic devices as here described can be seen, for example, from U.S. Patent 6,046,792.

Page 5, delete paragraph [0014] and replace it with the following new paragraph:

[0014] This and other aspects are achieved according to the invention in a lithographic apparatus including a radiation system constructed and arranged to supply a ~~projection~~ beam of radiation; a support ~~structure~~ constructed and arranged to support a patterning device, the patterning device constructed and arranged to pattern the ~~projection~~ beam of radiation according to a desired pattern; a substrate table to hold a substrate; a projection system constructed and arranged to project the patterned beam onto a target portion of the substrate; a ~~translucent~~ transparent plate positioned between an optical element of the projection system and the substrate; a first fluid having a first index of refraction filling a first space between the substrate and the ~~translucent~~ transparent plate; and a second fluid having a second index of refraction filling a second space between the ~~translucent~~ transparent plate and the optical element.

Page 5, delete paragraph [0015] and replace it with the following new paragraph:

[0015] According to a further aspect of the invention there is provided a device manufacturing method including ~~providing a substrate that is at least partially covered by a layer of radiation-sensitive material; providing a patterned projection beam of radiation;~~ projecting [[the]] a patterned beam of radiation onto a target portion of [[the]] a layer of radiation-sensitive material at least partially covering substrate using a projection system; and filling a space between an optical element of the projection system and the substrate with at least two fluids, wherein the two fluids have different indices of refraction.

Page 5, delete paragraph [0021] and replace it with the following new paragraph:

[0021] Fig. 3 is a schematic illustration of the passage of a patterned ~~projection~~ beam of radiation from an optical element through a second fluid, a ~~translucent~~ transparent plate, and first fluid incident on a substrate;

Page 7, delete paragraph [0026] and replace it with the following new paragraph:

[0026] Figure 1 schematically depicts a lithographic projection apparatus 1 according to an embodiment of the invention. The apparatus includes a radiation system Ex, IL constructed and arranged to supply a ~~projection~~ beam PB of radiation (e.g. UV or EUV radiation, such as, for example, generated by an excimer laser operating at a wavelength of 248 nm, 193 nm or 157 nm, or by a laser-fired plasma source operating at 13.6 nm). In this embodiment, the radiation system also comprises a radiation source LA. The apparatus also includes a first object (mask) table MT provided with a mask holder constructed and arranged to hold a mask MA (e.g. a reticle), and connected to a first positioning device PM to accurately position the mask with respect to a projection system or lens PL; a second object (substrate) table WT provided with a substrate holder constructed and arranged to hold a substrate W (e.g. a resist-coated silicon wafer), and connected to a second positioning device PW to accurately position the substrate with respect to the projection system or lens PL. The projection system or lens PL (e.g. a quartz and/or CaF_2 lens system or a refractive or catadioptric system, a mirror group or an array of field deflectors) is constructed and arranged to image an irradiated portion of the mask MA onto a target portion C (e.g. comprising one or more dies) of the substrate W. The projection system PL is supported on a reference frame RF. The apparatus may employ another kind of patterning device, such as a programmable mirror array of a type as referred to above.

Page 7, delete paragraph [0027] and replace it with the following new paragraph:

[0027] The source LA (e.g. a UV excimer laser, an undulator or wiggler provided around the path of an electron beam in a storage ring or synchrotron, a laser-produced plasma source, a discharge source or an electron or ion beam source) produces ~~a beam PB of~~ radiation. The ~~beam PB~~ radiation is fed into an illumination system (illuminator) IL, either directly or after

having traversed a conditioner, such as a beam expander Ex, for example. The illuminator IL may comprise an adjusting device AM for setting the outer and/or inner radial extent (commonly referred to as σ-outer and σ-inner, respectively) of the intensity distribution in the beam. In addition, it will generally comprise various other components, such as an integrator IN and a condenser CO. In this way, the beam PB impinging on the mask MA has a desired uniformity and intensity distribution in its cross-section.

Page 8, delete paragraph [0028] and replace it with the following new paragraph:

[0028] It should be noted with regard to Figure 1 that the source LA may be within the housing of the lithographic projection apparatus (as is often the case when the source LA is a mercury lamp, for example), but that it may also be remote from the lithographic projection apparatus, the radiation beam which it produces being led into the apparatus (e.g. with the aid of suitable directing mirrors). The latter scenario is often the case when the source LA is an excimer laser. The present invention encompasses both of these scenarios. In particular, the present invention encompasses embodiments wherein the radiation system Ex, IL is adapted to supply a ~~projection~~ beam of radiation having a wavelength of less than about 170 nm, such as with wavelengths of 157 nm, 126 nm and 13.6 nm, for example.

Page 8, delete paragraph [0030] and replace it with the following new paragraph:

[0030] The depicted apparatus can be used in two different modes:

1. In step mode, the mask table MT is kept essentially stationary, and an entire mask image is projected at once, i.e. a single "flash," onto a target portion C. The substrate table WT is then shifted in the X and/or Y directions so that a different target portion C can be irradiated by the beam PB;

2. In scan mode, essentially the same scenario applies, except that a given target portion C is not exposed in a single "flash." Instead, the mask table MT is movable in a given direction (the so-called "scan direction", e.g. the Y direction) with a speed v, so that the ~~projection~~ beam PB is caused to scan over a mask image. Concurrently, the substrate table WT is simultaneously moved in the same or opposite direction at a speed V = Mv, in which M is the magnification of the lens PL (typically, M = 1/4 or 1/5). In this manner, a relatively large target portion C can be exposed, without having to compromise on resolution.

Page 9, delete paragraph [0031] and replace it with the following new paragraph:

[0031] Referring to Fig. 2, the substrate table WT is immersed in a first fluid 10 having a first index of refraction. The first fluid 10 is provided by a first fluid supply system 15. A ~~translucent~~ transparent plate, or dish, 12 is positioned between the projection system PL and the substrate table WT. The space between an optical element OE (e.g., a lens) of the projection system PL and the ~~translucent~~ transparent plate 12 is filled with a second fluid 11 having a second index of refraction. The second index of refraction is different from the first index of refraction. The second fluid 11 is provided by a second fluid supply system 16. The ~~translucent~~ transparent plate 12 has a third index of refraction that is preferably between the first index of refraction of the first fluid 10 and the second index of refraction of the second fluid 11.

Page 10, delete paragraph [0036] and replace it with the following new paragraph:

[0036] The ~~translucent~~ transparent plate 12 has an index of refraction n_{TP} that is between the index of refraction n_{FL} of the first fluid 10 and the index of refraction n_{SL} of the second fluid 11. The ~~translucent~~ transparent plate 12 may be formed of any material that is transparent to the particular wavelength radiation, e.g., 365 nm, 248 nm, 193 nm, 157, or 126 nm, generated by the radiation system Ex, IL of the lithographic projection apparatus 1 and has an index of refraction n_{TP} between the indices of refraction of the first fluid 10 and the second fluid 11, including an index of refraction n_{TP} being equal to either the index of refraction n_{FL} or n_{SL} of the first fluid 10 or the second fluid 11, respectively. It should also be appreciated that the entire plate 12 need not be transparent, only those portions through which the patterned projection beam passes through.

Page 11, delete paragraph [0037] and replace it with the following new paragraph:

[0037] As shown in Fig. 3, the patterned ~~projection~~ beam PPB exits the optical element OE of the projection system PL and enters the second fluid 11. As the patterned ~~projection~~ beam PPB passes the boundary between the optical element OE and the second fluid 11 and passes into the second fluid 11, it is deflected as its velocity changes upon entering the second fluid 111. It should be appreciated that if the index of refraction n_{SL} of the second fluid 11 is equal

to the index of refraction n_{OE} of the optical element OE, the patterned ~~projection~~ beam PPB will not be deflected.

Page 11, delete paragraph [0038] and replace it with the following new paragraph:

[0038] The ~~translucent~~ transparent plate 12 may have an index of refraction n_{TP} that is equal to or higher than the index of refraction n_{SL} of the second fluid 11. As the patterned ~~projection~~ beam PPB passes from the second fluid 11 into the ~~translucent~~ transparent plate 12 it is deflected. It should be appreciated that the index of refraction n_{TP} of the ~~translucent~~ transparent plate 12 may be equal to the index of refraction n_{SL} of the second fluid 11 in which case the patterned ~~projection~~ beam PPB will not be deflected upon entering the ~~translucent~~ transparent plate 12.

Page 11, delete paragraph [0039] and replace it with the following new paragraph:

[0039] The first fluid 10 has an index of refraction n_{FL} that may be equal to or higher than the index of refraction n_{TP} of the ~~translucent~~ transparent plate 12. If the index of refraction n_{TP} of the ~~translucent~~ transparent plate 12 is equal to the index of refraction n_{SL} of the second fluid 11, the index of refraction n_{FL} of the first fluid 10 must be higher than the index of refraction n_{TP} of the ~~translucent~~ transparent plate 12 to provide a variable index of refraction. If the index of refraction n_{FL} of the first fluid 10 is higher than the index of refraction n_{TP} of the ~~translucent~~ transparent plate 12, the patterned ~~projection~~ beam PPB is deflected as it leaves the ~~translucent~~ transparent plate 12 and enters the first fluid 10. The patterned ~~projection~~ beam PPB passes through the first fluid 10 and is then incident on the substrate W.

Page 14, delete paragraph [0054] and replace it with the following new paragraph:

[0054] A device manufacturing method includes providing the substrate W at least partially covered by a layer of radiation-sensitive material. The patterned ~~projection~~ beam PPB is projected onto a target portion of the layer of radiation-sensitive material using the projection system. The space between an optical element of the projection system and the substrate is filled with at least two fluids. The two fluids have different indices of refraction. The ~~translucent~~ transparent plate separates the two fluids.